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Technical Publication Transfer

Using:

Rockwell International's Data

MIL-R-28002A (Raster)

Quick Short Test Report

12 July 1993

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Quick Short Test Report

12 July 1993

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Contents

1. Introduction

1.1 Background

The Department of Defense (DoD) Air Force Continuous Acquisition and Life-cycle Support (CALS) Test Network (AFCTN) is conducting tests of the military standard for the Automated Interchange of Technical Information, MIL-STD-1840A, and its companion suite of military specifications. The AFCTN is a DoD sponsored confederation of voluntary participants from industry and government managed by the Electronic Systems Center (ESC).

The primary objective of the AFCTN is to evaluate the effectiveness of the CALS standards for technical data interchange and to demonstrate the technical capabilities and operational suitability of those standards. Two general categories of tests are performed to evaluate the standards; formal and informal.

Formal tests are large and comprehensive, which follow a written test plan, require specific authorization from the DoD, and may take months to prepare, execute, and report.

Informal tests are quick and short, used by the AFCTN technical staff, to broaden the testing base. They include representative samples of the many systems and applications used by AFCTN participants. They also allow the AFCTN staff to gain feedback from many industry and government interpretations of the standards, to increase the base of participation in the CALS initiative, and respond to the many requests for help that come from participants. participants take part voluntarily, benefit by receiving an evaluation of their latest implementation (interpretation) of the standards, interact with the AFCTN technical staff, gain experience using the standards, and develop increased confidence in them. The results of informal tests are reported in Quick Short Test Reports (QSTRs) that briefly summarize the standard(s) tested, the hardware and software used, the nature of the test, and the results.

1.2 Purpose

The purpose of the informal test, reported in this QSTR, was
to analyze Rockwell International's interpretation and use
of the CALS standards in transferring technical Raster data.
Rockwell used its CALS Technical Data Interchange System to
produce data, in accordance with the standards, and deliv-
ered it to the AFCTN technical staff on a 9-track magnetic
tape.

2. Test Parameters

Test Plan: AFCTB 93-071

Date of
Evaluation: 12 July 1993

Evaluator: George Elwood
                                  Air Force CALS Test Bed
                                  HQ ESC/AV-2P
                                  4027 Colonel Glenn Hwy
                                  Suite 300
                                  Dayton OH 45431-1672

Data
Originator: John Armsby
                                  Rockwell International
                                  Tactical Systems Division
                                  1800 Satellite Blvd
                                  Duluth GA 30136
                                  (404) 476-6300

Data
Description: Technical Manual Test
                                      1 Document Declaration file
                                      1 Raster file

Data
Source System:
                    1840
                                  HARDWARE
                                      Unknown
                                  SOFTWARE
                                      Unknown

                    Raster
                                  HARDWARE
                                      Unknown
                                  SOFTWARE
                                      Unknown

Evaluation Tools Used:

    MIL-STD-1840A (TAPE)
        SUN 3/280
            AFCTN *Tapetool v1.2.10 UNIX*
            XSoft *CAPS/CALS v40.4*
        PC 486/50
            AFCTN *Tapetool v1.2.10 DOS*

    MIL-R-28002 (Raster)
        SUN SparcStation 2
            Carberry *CADLeaf Plus v3.1*
            AFCTN *validg4*
            AFCTN *calstb.475*
            IGES Data Analysis (IDA) *IGESView v3.0*
        PC 486/50
            AFCTN *validg4*
            IDA *IGESView Windows*
            Inset Systems *HiJaak Window v1.0*

Standards
Tested:
                MIL-STD-1840A
                MIL-R-28002A

3.   1840A Analysis

3.1   External Packaging

The tape arrived at the Air Force CALS Test Bed (AFCTB) en-
closed in a commercial mailing bag. The exterior of the bag
was not marked with a magnetic tape warning label, as re-
quired by MIL-STD-1840A, para. 5.3.1.3.

The tape was not enclosed in a barrier bag or barrier sheet
material, as required by MIL-STD-1840A, para. 5.3.1.2.
Inspection of the tape reel showed a label indicating the
recording density, as required by MIL-STD-1840A, para.
5.3.1.

3.2   Transmission Envelope

The 9-track tape received by the AFCTB contained MIL-STD-
1840A files. The files were named per the standard conven-
tions.

3.2.1   Tape Formats

The tape was run through the AFCTN *Tapetool v1.2.10* utility.
No errors were encountered while evaluating the contents of
the tape labels.

The tape was read using the XSoft *CAPS read1840A* utility
without any reported errors.

The physical structure of the tape meets the CALS MIL-STD-
1840A requirements.

3.2.2   Declaration and Header Fields

One error was found in the Document Declaration file. The
dstsys record contained the value "NONE" which is not cor-
rect. MIL-STD-1840A requires a value other than "NONE" for
this record. The value should have been "AFCTB" or some
variation of this value.

```
dstsys: NONE
*** ERROR (MIL-STD-1840A; 5.1.1.2) - Invalid value for 'dstsys:'.
*** NOTE (MIL-STD-1840A; 5.1.1.2) - The value for Destination
    System cannot be 'NONE'.
```

No errors were reported in the Raster header file.

The Document Declaration file in this tape does not meet the CALS MIL-STD-1840A requirements.

4. IGES Analysis

No Initial Graphics Exchange Specification (IGES) files were included on this tape.

5. SGML Analysis

No Standard Generalized Markup Language (SGML) files were included on this tape.

6. Raster Analysis

The tape contained one Raster file. This file was evaluated using the AFCTN *validg4* utility. This program reported that the file meets the CALS MIL-R-28002A specification.

The file was read into the AFCTN *calstb.475* viewing utility. No problems were noted.

The AFCTB has several tools for viewing Raster files. These tools are not used to generate a pass/fail but to report how commercially available software can handle the files. Many of these products are used in the development of technical publications and are good indicators of usability. The use of these products is not an endorsement nor an indication of CALS capability. All operations were performed using the default settings.

The Raster file was read into Carberry's *CADLeaf* software without a reported error. The images were displayed but not printed due to file size and network limitation.

The file was read into IDA's *IGESView* and *IGESView for Windows* without a reported error and printed.

The file was read into Inset Systems' *HiJaak for Windows* and printed without a reported error.

The Raster file was converted using Rosetta Technologies' *Prepare* without a reported error. The resulting file was read into Rosetta Technologies' *Preview*, displayed and printed.

The Raster file meets the CALS MIL-R-28002A specification.

7. CGM Analysis

No Computer Graphics Matafile (CGM) files were included on this tape.

8. Conclusions and Recommendations

The physical structure of the tape from Rockwell International meets the CALS MIL-STD-1840A requirements.

The Raster file meets the CALS MIL-R-28002A specification.

Because of the error in the Declaration file, the tape does not meet the CALS MIL-STD-1840A requirements.

9. Appendix A - Tapetool Report Logs

9.1 Tape Catalog

Air Force CALS Test Network Catalog Evaluation - Version 1.2; Release 10 (C)

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information
    ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes
                        for Information Interchange
    ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Mon Jul 12 12:00:44 1993

MIL-STD-1840A File Catalog

File Set Directory: /cals/u1210/Set002

                                                                    Page: 1

File Name	File Type	Record Format/ Length	Block Length/Total	Selected/ Extracted
D001	Document Declaration	D/00260	02048/000001	Extracted
D001R001	Raster	F/00128	02048/000041	Extracted

Catalog Process terminated normally.

9.2 Tape Evaluation Log

Air Force CALS Test Network Tape Evaluation - Version 1.2; Release 10 (C)
   Standards referenced:
      ANSI X3.27 (1987) - File Structure and Labeling of Magnetic Tapes
                           for Information Interchange
      ANSI X3.4 (1986) - Coded Character Sets - 7 Bit ASCII

Mon Jul 12 12:00:41 1993
ANSI Tape Import Log

Allocating tape drive /dev/rmt0...

/dev/rmt0 allocated.

VOL1CALS01   4

   Label Identifier: VOL1
   Volume Identifier: CALS01
   Volume Accessibility:
   Owner Identifier:
   Label Standard Version: 4

HDR1D001   CALS0100010001000000 93182 00000 000000

   Label Identifier: HDR1
   File Identifier: D001
   File Set Identifier: CALS01
   File Section Number: 0001
   File Sequence Number: 0001
   Generation Number: 0000
   Generation Version Number: 00
   Creation Date: 93182
   Expiration Date: 00000
   File Accessibility:
   Block Count: 000000
   Implementation Identifier:

HDR2D0204800260   00

   Label Identifier: HDR2
   Recording Format: D
   Block Length: 02048
   Record Length: 00260
   Offset Length: 00

*********** Tape Mark **************

Actual Block Size Found = 2048 Bytes.

Number of data blocks read = 1.

*********** Tape Mark **************

EOF1D001   CALS0100010001000000 93182 00000 000001

  Label Identifier: EOF1
  File Identifier: D001
  File Set Identifier: CALS01
  File Section Number: 0001
  File Sequence Number: 0001
  Generation Number: 0000
  Generation Version Number: 00
  Creation Date: 93182
  Expiration Date: 00000
  File Accessibility:
  Block Count: 000001
  Implementation Identifier:

EOF2D0204800260   00

  Label Identifier: EOF2
  Recording Format: D
  Block Length: 02048
  Record Length: 00260
  Offset Length: 00

*********** Tape Mark **************

HDR1D001R001   CALS0100010002000000 93182 00000 000000

  Label Identifier: HDR1
  File Identifier: D001R001
  File Set Identifier: CALS01
  File Section Number: 0001
  File Sequence Number: 0002
  Generation Number: 0000
  Generation Version Number: 00
  Creation Date: 93182
  Expiration Date: 00000
  File Accessibility:
  Block Count: 000000
  Implementation Identifier:

HDR2F0204800128   00
  Label Identifier: HDR2

Recording Format: F
Block Length: 02048
Record Length: 00128
Offset Length: 00

************ Tape Mark ***************

Actual Block Size Found = 2048 Bytes.

Number of data blocks read = 41.

************ Tape Mark ***************

EOF1D001R001   CALS0100010002000000 93182 00000 000041

   Label Identifier: EOF1
   File Identifier: D001R001
   File Set Identifier: CALS01
   File Section Number: 0001
   File Sequence Number: 0002
   Generation Number: 0000
   Generation Version Number: 00
   Creation Date: 93182
   Expiration Date: 00000
   File Accessibility:
   Block Count: 000041
   Implementation Identifier:

EOF2F0204800128   00

   Label Identifier: EOF2
   Recording Format: F
   Block Length: 02048
   Record Length: 00128
   Offset Length: 00

************ Tape Mark ***************

************ Tape Mark ***************

############ End of Volume CALS01 #############

############ End Of Tape File Set #############

Deallocating /dev/rmt0...

Tape Import Process terminated normally.

9.3   Tape File Set Validation Log

Air Force CALS Test Network File Set Evaluation - Version 1.2; Release 10 (C)

  Standards referenced:
    MIL-STD-1840A (1987) - Automated Interchange of Technical Information

Mon Jul 12 12:00:45 1993

MIL-STD-1840A File Set Evaluation Log

File Set: Set002

Found file: D001
Extracting Document Declaration Header Records...
Evaluating Document Declaration Header Records...

srcsys: ROCKWELL INTERNATIONAL TACTICAL SYSTEMS DIVISION, DULUTH GA. 30136
srcdocid: NONE
srcrelid: NONE
chglvl: ORIGINAL
dteisu: 19930701
dstsys: NONE
*** ERROR (MIL-STD-1840A; 5.1.1.2) - Invalid value for 'dstsys:'.
*** NOTE (MIL-STD-1840A; 5.1.1.2) - The value for Destination
    System cannot be 'NONE'.
dstdocid: NONE
dstrelid: NONE
dtetrn: 19930701
dlvacc: NONE
filcnt: R1
ttlcls: UNCLASSIFIED
doccls: UNCLASSIFIED
doctyp: Product Data
docttl: NONE

1 error(s), 0 warning(s), and 1 note(s) were encountered
in Document Declaration File D001.

Found file: D001R001
Extracting Raster Header Records...
Evaluating Raster Header Records...

srcdocid: 1234567891011121314151617181920
dstdocid: AGM-130
txtfilid: NONE
figid: NONE

srcgph: NONE
doccls: UNCLASSIFIED
rtype: 1
rorient: 090,270
rpelcnt: 004468,006860
rdensty: 0200
notes: NONE

Saving Raster Header File: D001R001_HDR
Saving Raster Data File: D001R001_GR4

Evaluating numbering scheme...
No errors were encountered during numbering scheme evaluation.
Numbering scheme evaluation complete.

Checking file count...
No errors were encountered during file count verification.
File Count verification complete.

A total of 1 error(s), 0 warning(s), and 1 note(s) were
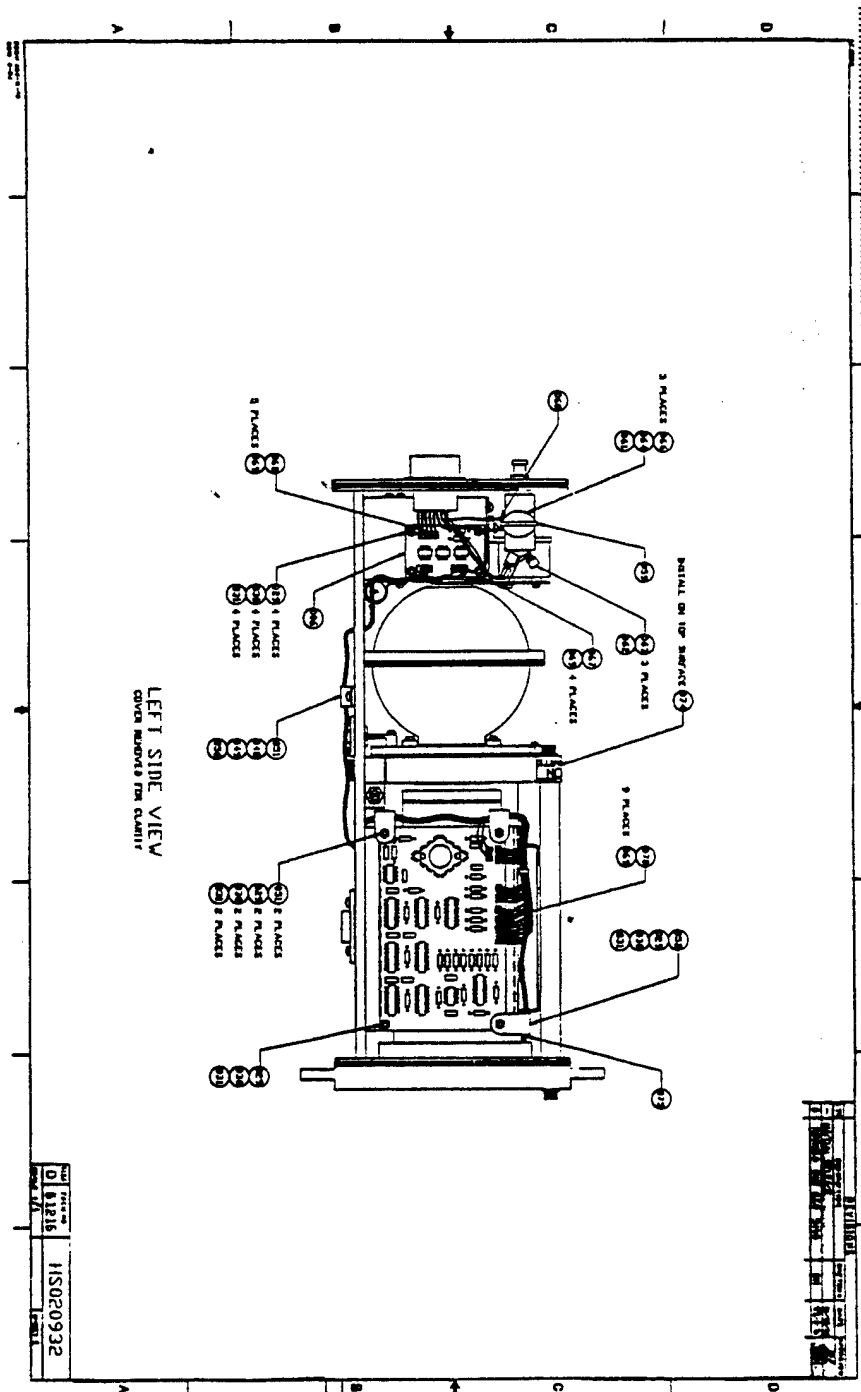encountered in Document D001.

A grand total of 1 error(s), 0 warning(s), and 1 note(s) were
encountered in this File Set.

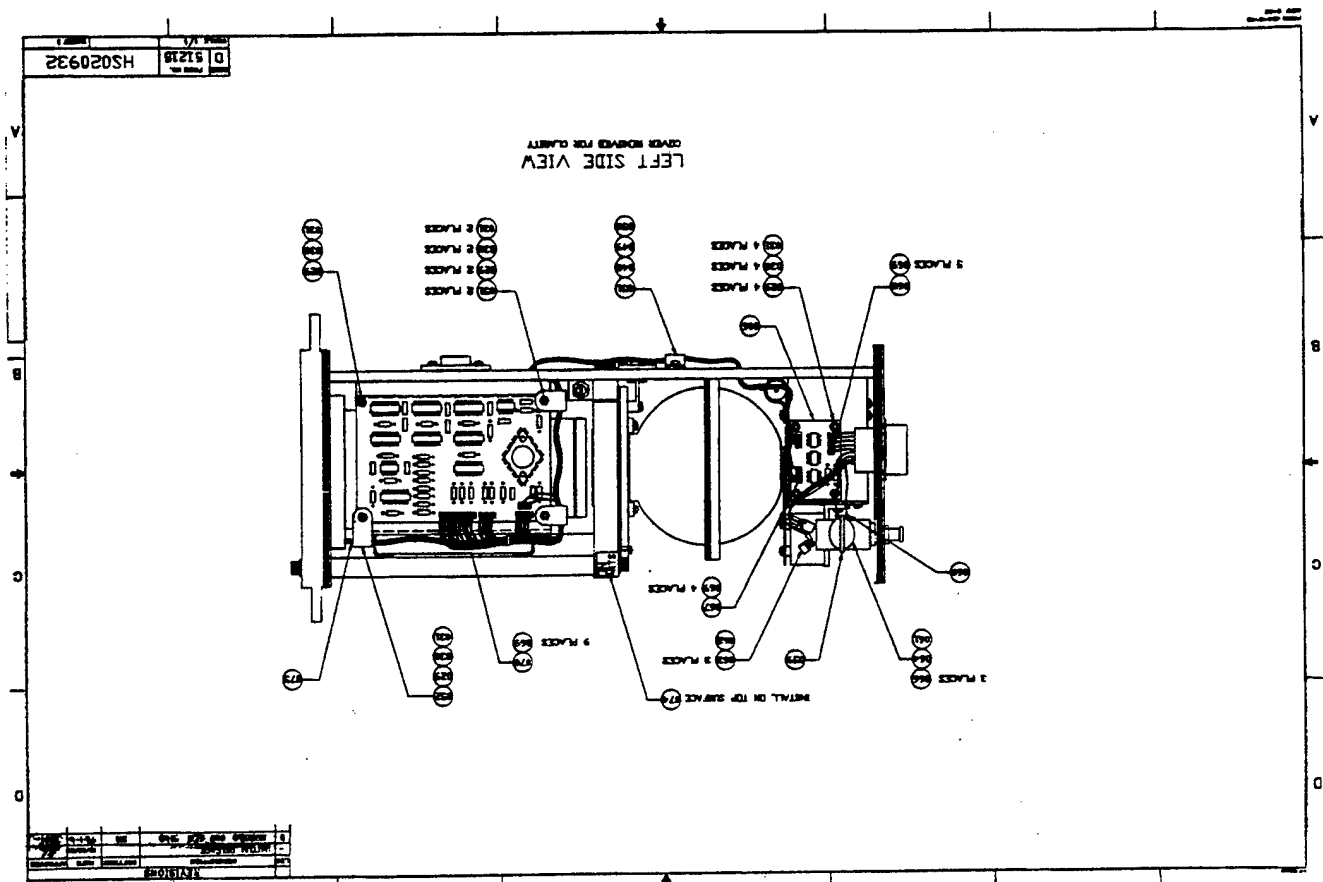MIL-STD-1840A File Set Evaluation Complete.

10. Appendix B - Detailed Raster Analysis

10.1 File D001R001

10.1.1 Output HiJaak for Windows

10.1.2 Output IGESView

10.1.3 Output Preview